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Bo-In Lin 13445 Mandoli Drive Los Altos Hill, CA 94022	

  

EXAMINER	
CHOI, WILLIAM C	

  

ART UNIT	PAPER NUMBER
2873	

  

MAIL DATE	DELIVERY MODE
07/03/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/584,693

**Applicant(s)**

CHU, RAYMOND R.

**Examiner**

William C. Choi

**Art Unit**

2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,3-17,28 and 29 is/are allowed.
- 6) ☒ Claim(s) 18 and 21 is/are rejected.
- 7) ☒ Claim(s) 2,19,20,22-27 and 30 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All. b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 0606.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Information Disclosure Statement***

Receipt of the Information Disclosure Statement (IDS) with copies of the references cited therein, was received on 6/23/06. An initialized copy of the IDS is enclosed with this office action.

### ***Claim Objections***

The numbering of claims is not in accordance with 37 CFR 1.126. When claims are presented, they must be numbered consecutively. Misnumbered claims 24-31 have been respectively renumbered 23-30.

Claims 2, 19 and 20 are objected to because of the following informalities: in line 2 of claims 2 & 19 and line 4 of claim 30, "fineness" should be changed to "finesse". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 18 and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Koulikov et al (U.S. 6,792,010 B2).

In regard to claim 18, Koulikov et al discloses an external cavity tunable laser (column 2, lines 10-32, Figure 1, "10") comprising: a frequency-tuning device configured as an Acousto-optical cell (column 3, line 64 – column 4, line 2, Figure 1, "18") and a reflection means for forward and backward transmitting an optical beam through said Acousto-optical cell (column 4, lines 7-9, Figure 1, "20") for generating an optical beam with zero-wavelength shift and at least twice filtered by said Acousto-optical cell (column 4, lines 7-9); and an etalon for cooperating with said frequency-tuning device to increase a side-mode-suppression-ratio of said tunable laser (column 3, lines 56-63, Figure 1, "16").

Regarding claim 21, Koulikov et al wherein said etalon (Figure 1, "16") is disposed immediately before said frequency tuning device along an optical path of said tunable laser (Figure 1, "18").

***Allowable Subject Matter***

Claims 1, 3-17, 28 and 29 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: The prior art fails to teach a combination of all the claimed features as presented in claims 1 and 3-17: an external cavity tunable laser comprising: a frequency-tuning device configured as an Acousto-optical cell including first and second Acousto-optical diffraction means as claimed, comprising an etalon having spectral characteristics for

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cooperating with said frequency-tuning device to increase a side-mode suppression ratio of said tunable laser.

The prior art fails to teach a combination of all the claimed features as presented in claim 28: an external cavity tunable laser comprising: a frequency-tuning device configured as a non-collinear Acousto-optical cell as claimed, specifically comprising an etalon cooperating with said frequency-tuning device for increasing a side-mode-suppression-ratio of said tunable laser.

The prior art fails to teach a combination of all the claimed features as presented in claim 29: a method for tuning a laser comprising: tuning said laser by a frequency-tuning device configured as a non-collinear Acousto-optical cell as claimed, specifically comprising employing an etalon of a specific fineness to cooperate with said frequency-tuning device for outputting an optical signal with an increased a side-mode-suppression-ratio (SMSR).

Claims 20, 22-27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art fails to teach a combination of all the claimed features as presented in claim 20: an external cavity tunable laser as claimed, specifically wherein said etalon is spectrally aligned with a telecommunication ITU grid.

The prior art fails to teach a combination of all the claimed features as presented in claim 22: an external cavity tunable laser as claimed, specifically wherein said etalon

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is disposed immediately after said frequency tuning device along an optical path of said tunable laser.

The prior art fails to teach a combination of all the claimed features as presented in claims 23-27: an external cavity tunable laser as claimed, specifically wherein said Acousto-optical cell further comprising a first and a second Acousto-optical crystal.

Claims 2, 19 and 30 would be allowable if rewritten or amended to overcome the objections set forth in this Office action.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William C. Choi whose telephone number is (571) 272-2324. The examiner can normally be reached on Monday-Friday from about 9:00 am to 6 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Mack can be reached on (571) 272-2333. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic

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Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

W.C.

William Choi  
Patent Examiner  
Art Unit 2873  
June 24, 2007